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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/768,509

**Applicant(s)**

LAZARIDIS ET AL.

**Examiner**

JAMES S. WOZNIAK

**Art Unit**

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,5-13,37,41-45,48-50 and 54-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,5-13,37,41-45,48-50 and 54-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. In response to the office action from 5/23/2008, the applicant has submitted an amendment, filed 8/15/2008, amending independent claims 2, 37, 48, 54, and 56, while arguing to traverse the art rejection based on the limitation regarding a user non-selection of a complete command and entry of subsequent characters to narrow down a list of complete commands (*Amendment, Pages 8-13*). Applicant's arguments have been fully considered, however the previous rejection is maintained, altered with respect to the amended claims and due to the reasons listed below in the response to arguments.
2. In response to the cancellation of claims 52-53, the examiner has withdrawn the previous objections directed to minor informalities.
3. In response to the applicant's arguments and cited portion of the specification (*Amendment, Page 7*), the examiner has withdrawn the previous 35 U.S.C. 112, first paragraph rejection.
4. In response to amended claims 54 and 56 and the cancellation of claims 51-53, the examiner has withdrawn the previous 35 U.S.C. 112, second paragraph rejection.

***Response to Arguments***

5. Applicant's arguments have been fully considered but they are not persuasive for the following reasons:

With respect to **Claim 2**, the applicant first argues that Beauregard et al (*U.S. Patent: 5,974,413*) does not teach displaying a list of probable commands while command text is entered and alleges that the examiner contends this feature is taught by this reference on pages 8-9 of the previous Office Action (*Amendment, Page 8*). In response, the examiner notes that in this rejection a section of Beauregard was not cited against this limitation and that on page 9 of the same action, the Eide reference ("*Valet: An Intelligent Unix Shell Interface*," 1995) was relied upon for such a teaching. Thus, since it is Eide that provides such a teaching, the applicant's argument has been fully considered, but is not convincing.

Next, the applicant argues that Beauregard fails to teach the step of continuing to enter commands if a word is not selected because it is alleged that Beauregard does not allow a user to continue entering text and continuous entry in Beauregard is only for content words which are not displayed in a listed manner (*Amendment, Page 8*). In response, the examiner notes that the cited portion merely relates the ability in Beauregard's system of being able to continually enter and monitor a text stream after command display (*Col. 17, Line 62- Col. 18, Line 4*). In Beauregard, if a user does not intend for a partial word entry to be a command at a particular point in time, the user may continue typing. If, at a future time, the monitoring detects a need for command entry, a complete command can be enabled (*dual word choice and continued text entry, Col. 17, Line 62- Col. 18, Line 4*). Also, the ability for a user to ignore a list of suggested

completions continue typing until text entry is completed is more specifically taught by Laursen et al (*U.S. Patent: 6,288,718*) (*Col. 2, Lines 1-24*) and is a well known and commonly implemented feature of text entry systems. Thus, since Beauregard allows a user to continually enter text until a command is completed and Laursen allows a user to ignore a list of complete text entries to continue text entry, the applicant's arguments have been fully considered, but are not convincing.

Finally, with respect to Claim 2, the applicant alleges that Laursen would not motivate one of ordinary skill in the art to modify Beauregard because:

A.) In Laursen, text is directed to a person's name, whereas in Beauregard, the text is a computer command (*Amendment, Page 9*). In response, the examiner notes that both types of entries are based on *text relying on alphanumeric characters forming words* (see *Fig. 3 of Laursen* and *Fig. 23 of Beauregard*), thus the functionality of Laursen, which relies on the beginning letters of the partial user entry (*Col. 2, Lines 1-24*) could easily be applied to Beauregard because Beauregard also relies on a similar text input via keystrokes (*Col. 7, Line 58- Col. 8, Line 49*). In Laursen, the characters gradually entered by a user are compared against the database of words and used to display text entries that begin with those same letters (*Col. 2, Lines 1-24*). In Beauregard, the letters of the text-based command words could easily be processed in the same fashion (*i.e., commands indexed to the same letters would be retrieved as letters are gradually entered*). Also, the inclusion of this feature in Beauregard provides a clear benefit of allowing pertinent text information (*i.e., a command in the case of Beauregard*) to be retrieved "quickly and efficiently with minimum keystrokes" (*Laursen, Col. 2, Lines 22-24*). Thus, since both prior art references are directed to text entry and Laursen could be easily

combined with Beauregard in order to achieve a clear benefit that is recognizable to one of ordinary skill in the art, the applicants' arguments have been fully considered, but are not convincing.

B.) In Laursen, text is entered in response to a query whereas in Beauregard text is entered on the user's own volition (*Amendment, Page 9*). In response, the examiner notes that the type of data entry of both prior art references is directed to text entry. As explained above, the alphabetical lookup of Laursen could easily be applied to Beauregard because of this similarity and for a benefit that would be recognizable to one of ordinary skill in the art. Thus, this argument has been fully considered, but is not convincing.

C.) The type of text entry in Laursen is pre-defined, whereas in Beauregard it is any function or application that the computer supports (*Amendment, Page 9*). In response the examiner notes that both text objects are directed to a list of text entries and both sets are finite. In Beauregard this list is a list of commands that "the computer supports" and is text based and can easily incorporate the more efficient entry means taught by Laursen for the reasons noted above. Thus, this argument has been fully considered, but is not convincing.

D.) Laursen deals with unabbreviated words, while those in Beauregard are abbreviated (*Amendment, Page 9*). In response, the examiner notes that since both text sets still deal with alphanumeric characters and Laursen teaches the concept retrieving complete entries indexed to a portion of the text as is noted above. Thus, this argument has been fully considered, but is not convincing.

With respect to **Claim 37**, the applicant argues that Eide fails to teach a list of displayed suggestions to a user (*Amendment, Page 10*). In response, the examiner notes that in response to

a partially input command, Eide does present a list of corresponding matching complete commands to a user (*see footnote of Page 37*). Thus, this particular argument has been fully considered, but is not convincing. Also, the applicant further argues that the added conditional limitations to prior claims 39-40 directed to if a user selects a command or if instead of selecting a complete command a user continues to enter text is not taught by Eide (*Amendment, Page 10*). In response, the examiner notes that this added limitation has changed the scope of claim 37 and necessitates a new ground of rejection in further view of Laursen et al. Laursen et al teaches these features for the above explained reasons. Thus, this argument has been fully considered, but is not convincing.

With respect to **Claim 48**, the applicant argues that Beauregard and Eide fail to teach comparing and initiating without having to enter a delimiter denoting an end of a text string (*Amendment, Page 10*). In response, the examiner notes that these argument have been fully considered, but are moot with respect to the new grounds of rejection necessitated by the amended claims and further in view of Laursen. Laursen teaches the ability to display a list of full text entries in response to a partially input string automatically, without the requirement for a delimiter (*Col. 2, Lines 1-24*).

The applicant also argues that this limitation is not directed to new matter as was previously indicated in the Office Action from 7/26/2007 and indicates that the examiner implied that if this limitation was added to the claim it might render it patentable (*Amendment, Page 10*). First, the examiner notes that no such implication of patentably was either made or intended by the examiner. The recitation in question specifically states: "Furthermore, the applicant's arguments regarding the lack of a delimiter is not convincing because such a limitation is not

recited in the claims” (*Prior OA, Page 3*). In other words *no statement* was made one way or another regarding the patentability of such a limitation because it was a moot point- there was no inclusion of this limitation in the claims and therefore discussion on this point did not merit discussion (*i.e., it did not apply/was pertinent*). It was clearly stated, however, that the inclusion of this limitation would necessitate a new matter rejection which has been set forth below. Thus, the applicant's statement regarding the patentability of such a limitation is erroneous for at least these preceding reasons. Also, even if this limitation was supported in the specification, it would not be patentable as per the below rejection further in view of Laursen.

The applicant next proceeds to point out where, in the specification, support can be found for the added limitation of claim 48 (*Amendment, Pages 11-12*). Although the portions of the specification do explain how a command is entered, the cause creating the new matter issue is the fact that the specification is *completely silent on any type of a delimiter*. Any negative limitation or exclusionary proviso must have basis in the original disclosure. If alternative elements are positively recited in the specification, they may be explicitly excluded in the claims. See *In re Johnson*, 558 F.2d 1008, 1019, 194 USPQ 187, 196 (CCPA 1977) (“[the] specification, having described the whole, necessarily described the part remaining.”). See also *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), *aff’d mem.*, 738 F.2d 453 (Fed. Cir. 1984) (*MPEP 2173.05(i)- any claim containing a negative limitation which does not have basis in the original disclosure should be rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement*). Since there is no positive recitation of any type of delimiter in the specification, the applicant's argument is unconvincing and the new matter rejection has been set forth below.



With respect to **Claim 54**, the applicant argues that the prior art of record fails to teach one command that is automatically performed without being displayed to and selected by a user if the command probability exceeds a threshold (*Amendment, Page 12*). These arguments have been fully considered, but are moot with respect to the new grounds of rejection, necessitated by the amended claims and further in view of Horvitz (*U.S. Patent: 6,415,304*).

With respect to **Claim 56**, the applicant argues that Beauregard fails to teach the feature of displaying a list of commands as soon as the user beings entering a text string and argues that Snapper et al (*U.S. Patent: 7,216,292*) is irrelevant to command processing for the reasons presented in the response from 10/24/2007 (*Amendment, Page 13*). As was pointed out in the OA from 12/21/2007, however, Snapper is analogous art because it is from a similar field of endeavor in text string processing (Page 3 and see the similar arguments pointed out above with respect to Laursen). Thus, these arguments have been fully considered, but are not convincing.

The art rejection of the further dependent claims is traversed for reasons similar to the independent claims (*Amendment, Page 13*). In regards to such arguments, see the response directed towards the independent claims.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 2, 5, 9-13, 37, 41-45, and 48-50** are rejected under 35 U.S.C. 103(a) as being unpatentable over Beauregard et al (*U.S. Patent: 5,974,413*) in view of Eide ("*Valet: An Intelligent Unix Shell Interface*," 1995) and further in view of Laursen et al (*U.S. Patent: 6,288,718*).

With respect to **Claim 2**, Beauregard discloses:

Receiving an abbreviated textual command in a natural language search engine (*text input, Col. 7, Line 58- Col. 8, Line 49; command code words, Col. 15, Lines 18-58; and wordbase search, Col. 16, Line 65- Col. 17, Line 31*);

While receiving the abbreviated textual command performing the steps of:

Searching a natural language database that stores a data set of abbreviated textual commands and associated application commands (*searching a "wordbase" database containing command code words and associated service scripts, Col. 16, Line 65- Col. 17, Line 31*);

Displaying a list of probable complete commands matching the currently received portion of the abbreviated textual command (*displaying multiple commands in a window that may correspond to a entered command word, Col. 42, Lines 27-50*).

If a user selects a complete command from the list, then setting the complete command as the abbreviated textual command, and executing the associated application command (*selection of a displayed script command and script execution, Col. 43, Lines 1-13*).

Although Beauregard teaches a means for presenting a list of probable commands to a user and further discloses recording command history information (*Col. 17, Lines 16-31*), Beauregard does not specifically suggest utilizing the history information in determining the one or more probable commands. Eide, however, recites a means for determining probable input

commands that utilizes a command history (*user input history used in determining a text command, Pages 28-31*). Eide further teaches the ability to perform a command search process similar to that of the claimed invention while receiving a textual input command (*pages 37-38*).

Beauregard and Eide are analogous art because they are from a similar field of endeavor in text command systems. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Beauregard with the means for determining probable input commands during text command reception utilizing a command history as taught by Ramaswamy in order to reduce tedium and typing errors in command entry while increasing command match frequency (*Eide, Pages 29 and 37*).

Beauregard and Eide do not specifically suggest text entry and list narrowing using a portable device, however, Laursen discloses a portable device that progressively reduces a list of potential text entries with each entered character and allows a user to at any time select a complete entry from the currently displayed list (*abstract; Col. 2, Lines 1-24; and Col. 6, Line 34-Col. 7, Line 12*).

Beauregard, Eide, and Laursen are analogous art because they are from a similar field of endeavor in user interfaces utilizing text entry. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Beauregard in view of Eide with the portable device embodiment taught by Laursen in order to further extend the command entry system to other well-known types of portable computing devices (*text command invention is portable to any type of computer, Beauregard, Col. 43, Lines 23-31*).

With respect to **Claim 5**, Eide further recites:

If the abbreviated textual command has an exact match in the data set, then setting the exact match as a user command (*Pages 37-38*);

If the abbreviated textual command does not have an exact match in the data set, then analyzing historical preferences to determine if the abbreviated textual command has a probable match in the data set (*misspelled command corrections, Pages 94-95*);

If the abbreviated textual command has a probable match in the data set, then setting the probable match as the user command (*Pages 94-95 and returning a single probable command*);

If the abbreviated textual command does not have a probable match in the data set then presenting a list of possible command, receiving a command choice and setting the command choice as the user command (suggest probable command, *Pages 94-95*); and

Executing the command (*Pages 37-38*).

With respect to **Claim 9**, Beauregard further discloses:

The abbreviated textual command has a first component and a second component, wherein the first component represents a desired application command, and the second component represents a desired application tag (text command and application identifying tag, *Col. 11, Lines 18-26*); and

The natural language database stores a data set of abbreviated textual commands and associated application commands and tags (*database storing command text and application tags, Col. 34, Lines 8-18*).

With respect to **Claim 10**, Beauregard further discloses:

The abbreviated textual command is entered into a graphical dialog box (*action box, Col. 27, Line 66- Col. 28, Line 9*).

With respect to **Claim 11**, Beauregard further discloses:

The natural language search engine can receive the abbreviated textual command while any of the software applications are executing (*Col. 10, Lines 3-8*).

With respect to **Claim 12**, Eide further discloses utilizing history data in misspelling correction (*Pages 94-95*).

With respect to **Claim 13**, Eide further recites:

The list of possible commands includes a set of generic application commands (*Page 97*).

With respect to **Claim 37**, Beauregard discloses:

Receiving an abbreviated textual command in a natural language search engine (*text input, Col. 7, Line 58- Col. 8, Line 49; command code words, Col. 15, Lines 18-58; and wordbase search, Col. 16, Line 65- Col. 17, Line 31*);

While receiving the abbreviated textual command performing the steps of:

Searching a natural language database that stores a data set of abbreviated textual commands and associated application commands (*searching a "wordbase" database containing command code words and associated service scripts, Col. 16, Line 65- Col. 17, Line 31*);

Displaying a list of probable complete commands matching the currently received portion of the abbreviated textual command (*displaying multiple commands in a window that may correspond to an entered command word, Col. 42, Lines 27-50*).

Although Beauregard teaches a means for presenting a list of probable commands to a user and further discloses recording command history information (*Col. 17, Lines 16-31*), Beauregard does not specifically suggest utilizing the history information in determining the one or more probable commands. Eide, however, recites a means for determining probable input

commands that utilizes a command history (*user input history used in determining a text command, Pages 28-31*). Eide further teaches the ability to perform a command search process similar to that of the claimed invention while receiving a textual input command (*pages 37-38*) and displaying the probable subset of the complete commands to the user (Page 37).

Beauregard and Eide are analogous art because they are from a similar field of endeavor in text command systems. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Beauregard with the means for determining probable input commands during text command reception utilizing a command history as taught by Eide in order to reduce tedium and typing errors in command entry while increasing command match frequency (*Eide, Pages 29 and 37*).

Beauregard and Eide do not specifically suggest text entry and list narrowing using a portable device, however, Laursen discloses a potable device that progressively reduces a list of potential text entries if a user decides to keep entering letters and allows a user to at any time select a complete entry from the currently displayed list if the user decides to cease entry (*abstract; Col. 2, Lines 1-24; and Col. 6, Line 34-Col. 7, Line 12*).

Beauregard, Eide, and Laursen are analogous art because they are from a similar field of endeavor in user interfaces utilizing text entry. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Beauregard in view of Eide with the portable device embodiment taught by Laursen in order to further extend the command entry system to other well-known types of portable computing devices (*text command invention is portable to any type of computer, Beauregard, Col. 43, Lines 23-31*).

With respect to **Claim 41**, Eide recites:

When the probable subset consists of only one complete command, executing that one complete command (*Page 37*).

With respect to **Claim 42**, Beauregard further discloses uses-defined textual commands (*Col. 9, Lines 19-22*).

With respect to **Claim 43**, Eide discloses the command history information as applied to Claim 2.

With respect to **Claims 44-45**, Eide recites past commands selected more than half of the time (*Pages 29-30; Pages 37-38; Pages 94-95*).

**Claim 48-49** contains subject matter similar to Claim 37, and thus, is rejected for the same reasons, wherein the lack of a need to enter a delimiter is taught by Laursen (*abstract; and Col. 2, Lines 1-24*).

With respect to **Claim 50**, Eide discloses the historical preference data used for text entry completion, as applied to Claim 37.

8. **Claims 6-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Beauregard et al (*U.S. Patent: 5,974,413*) in view of Eide ("*Valet: An Intelligent Unix Shell Interface*," 1995) in view of Laursen et al (*U.S. Patent: 6,288,718*) and further in view of Ramaswamy et al (*U.S. Patent: 6,622,119*).

With respect to **Claim 6**, Beauregard in view of Eide and further in view of Laursen teaches the software application launching method utilizing history information, as applied to Claims 2 and 5. Beauregard in view of Eide and further in view of Laursen does not specifically suggest probability factors associated with historical command preferences nor the determination

of a probably command as having greater than a threshold probability value however, Ramaswamy further discloses:

The step of analyzing historical preferences is performed using a set of probability factors that are generated based on historical preferences, where the abbreviated textual command has a probable match in the data set when a probability factor associated with the probable match is greater than a predetermined value (*probabilities based on user history, Col. 5, Lines 19-45; Col. 6, Lines 11-28; and probability threshold, Col. 8, Lines 3-24*).

Beauregard, Eide, Laursen, and Ramaswamy are analogous art because they are from a similar field of endeavor in language command systems. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Beauregard with the means for determining probable input commands utilizing a command history as taught by Ramaswamy in order to achieve improved natural language understanding accuracy through the use of user regularity scores (*Ramaswamy, Col. 1, Lines 23-33*).

With respect to **Claim 7**, Ramaswamy further discloses:

The predetermined value is defined by a user (*predetermined threshold that would inherently be set by some type of user, Col. 8, Lines 3-24*).

With respect to **Claim 8**, Ramaswamy additionally recites:

Adjusting the set of probability factors each time the abbreviated textual command is entered into the hand-held device (*using input commands to adapt command prediction for a particular user, Col. 3, Lines 14-26; Col. 9, Lines 9-31*).



9. **Claims 54-55** are rejected under 35 U.S.C. 103(a) as being unpatentable over Beauregard et al (*U.S. Patent: 5,974,413*) in view of Ramaswamy et al (*U.S. Patent: 6,622,119*) and further in view of Horvitz (*U.S. Patent: 6,415,304*).

With respect to **Claim 54**, Beauregard discloses:

Receiving a command text string being entered by a user, the text string being entered by a user, the text string being in two-part format with one part being an abbreviation for a software application and the other part being an abbreviation for an object of the application (*receiving two text command sections from a user, wherein a first part can comprise a software application and the second part can comprise a program object- multi-word commands, Col. 8, Lines 50-63; user-selected abbreviated natural language commands, Col. 15, Line 59- Col. 16, Line 6; example of activating a software program and performing an operation in the program based on a two part command, Col. 46, Line 55- Col. 47, Line 14; and "wordbase" database containing command code words and associated service scripts, Col. 16, Line 65- Col. 17, Line 31*); and

Executing the matching user command (*Col. 10, Line 33- Col. 11, Line 16; and Col. 44, Lines 40-67*).

Beauregard does not specifically suggest probability factors associated with historical command preferences, a recency factor of command issuance, nor the determination of a probable command as having greater than a threshold probability value however, Ramaswamy further discloses:

The step of analyzing historical preferences is performed using a set of probability factors that are generated based on historical preferences, where the abbreviated textual command has a probable match in the data set when a probability factor associated with the probable match is

greater than a predetermined value (*probabilities based on user history and a specific time interval, Col. 5, Lines 10-45; Col. 6, Lines 11-28; and probability threshold, Col. 8, Lines 3-24*).

Ramaswamy also discloses limiting a search for highest ranking commands to a small subset (*Col. 6, Lines 17-29*). Thus, one of ordinary skill in the art would have recognized that it would be obvious to utilize a subset of one command probability because Ramaswamy makes it known that a furthest limited subset would result in a lowest computational complexity (*Col. 6, Lines 17-29*).

Beauregard and Ramaswamy are analogous art because they are from a similar field of endeavor in language command systems. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Beauregard with the means for determining probable input commands utilizing a command history as taught by Ramaswamy in order to achieve improved natural language understanding accuracy through the use of user regularity scores (*Ramaswamy, Col. 1, Lines 23-33*).

Beauregard in view of Ramaswamy does not specifically suggest that if a command probability is below a threshold then displaying the command to a user for selection/execution and if a command probability exceeds a threshold then automatically selecting it without displaying it to the user, however, such processing is taught by Horvitz. Horvitz discloses that a probability is calculated for text indicative of a command and that if this probability score exceeds a threshold, it is automatically performed without user confirmation and if it falls below this threshold the action may be selected only with user approval (*Col. 6, Lines 42-67*).

Beauregard, Ramaswamy, and Horvitz are analogous art because they are from a similar field of endeavor in text-based command systems. Thus, it would have been obvious to one of

ordinary skill in the art, at the time of invention, to modify the teachings of Beauregard in view of Ramaswamy with the action selection procedure taught by Horvitz in order to better ensure that a user's goal is achieved based on input text (*Horvitz, Col. 6, Lines 22-24*).

With respect to **Claim 55**, Ramaswamy discloses a predetermined probability threshold (Col. 8, Lines 3, Lines 3-24). Although Ramaswamy does not explicitly disclose that a level of 0.5 may be used, a person of ordinary skill in the art would have had good reason to pursue all of the known probability thresholds (*i.e., 0-1.0*) based on a result they desire. It would require no more than "ordinary skill and common sense," to allow the user to preset the probability threshold to 0.5 if that is the accuracy that they require for a particular command application.

10. **Claim 56** is rejected under 35 U.S.C. 103(a) as being unpatentable over Beauregard et al (*U.S. Patent: 5,974,413*) in view of Snapper et al (*U.S. Patent: 7,216,292*).

With respect to **Claim 56**, Beauregard discloses:

A natural language search engine (*Fig. 4, Element 330*) configured to:

Receive a command text string being entered by a user, the text string being entered by a user while the user is in a first application, the text string being in two-part format with one part being an abbreviation for a software application and the other part being an abbreviation for an object of the application (*receiving two text command sections from a user, wherein a first part can comprise a software application and the second part can comprise a program object- multi-word commands, Col. 8, Lines 50-63; user-selected abbreviated natural language commands, Col. 15, Line 59- Col. 16, Line 6; example of activating a software program and performing an operation in the program based on a two part command, Col. 46, Line 55- Col. 47, Line 14; and*

*"wordbase" database containing command code words and associated service scripts, Col. 16, Line 65- Col. 17, Line 31);*

Compare the text string to the user commands in the database, to determine which of the user commands matches with the text string (*command matching processing, Col. 17, Lines 16-30; and Col. 27, Lines 50-65*); and

Executing the matching user command by initiating the corresponding second application, whereby the user launches the second application from within the first application by entering the command string within the first application (*user commands that can launch a new software applications from within a running application, Col. 10, Line 33- Col. 11, Line 16; and example of such an instance, Col. 44, Lines 40-67*).

Although Beauregard teaches a means for presenting a list of probable commands to a user and further discloses recording command history information (*Col. 17, Lines 16-31; and Col. 34, Lines 3-43*), Beauregard does not specifically suggest utilizing the history information in determining the one or more probable text inputs or continually narrowing down a list of possible texts as text begins to be entered. Snapper, however, recites a means for determining probable text inputs that utilizes a user history (*user input history used in determining a probable complete text entry, Col. 8, Lines 5-12; and Col. 13, Line 59- Col. 14, Line 5*). Snapper further teaches the ability to perform a text search process similar to that of the claimed invention while receiving a textual input and without the user having to enter a delimiter (*narrowing down of a list of displayed complete text entries with each successive character entry, Col. 10, Lines 45-60*).

Beauregard and Snapper are analogous art because they are from a similar field of endeavor in user interfaces utilizing text entry. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Beauregard with the means for determining probable text entries during text input reception utilizing a user history as taught by Snapper in order to reduce the need for a user to repeatedly enter a complete text entry (*Snapper, Col. 1, Lines 25-34*), thus enabling more efficient command entry.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: See PTO-892.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/James S. Wozniak/  
Patent Examiner, Art Unit 2626